

PATENT COOPERATION TREATY

* Pending
US case

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

Gregory A. Hunt
Jenkins, Wilson, Taylor & Hunt, P.A.
Suite 1200, University Tower
3100 Tower Boulevard
Durham, NC 27707

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 1497/19PCT	Date of mailing <i>(day-month-year)</i> FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US06/32484	International filing date <i>(day month-year)</i> 18 August 2006
Applicant SANTERA SYSTEMS, INC.	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
1211 Geneva 20, Switzerland, Facsimile No.: +41 22 740 14 35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

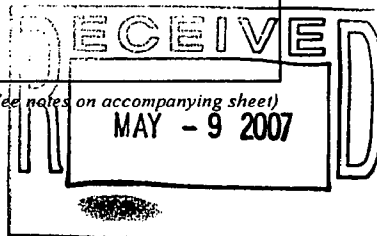
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver Telephone No. 571-272-7774
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Form PCT/ISA/220 (January 2004)

(See notes on accompanying sheet)

VJW
5/19/07

DOCKET DATES: 6/7, 7/7/07 - ART 19
 ASSIGNED ATTY: GAH
 FILE NO. 1497/19 PCT
 DOCKETED BY: PEL DATE: 5/19/07
 Addl to file IDS in 1497/19 IS 8/7/07



PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

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Durham, NC 27707

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing
(day month year) **07 MAY 2007**

Applicant's or agent's file reference
1497/19PCT

FOR FURTHER ACTION See paragraphs 1 and 4 below

International application No.
PCT/US06/32484

International filing date
(day month year) **18 August 2006**

Applicant **SANTERA SYSTEMS, INC.**

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
1211 Geneva 20, Switzerland, Facsimile No.: +41 22 740 14 35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

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The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. 571-273-3201

Authorized officer:
Blaine R. Copenheaver
Telephone No. 571-272-7774

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 1497/19PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US06/32484	International filing date (<i>day/month/year</i>) 18 August 2006	(Earliest) Priority Date (<i>day/month/year</i>) 19 August 2005
Applicant SANTERA SYSTEMS, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (see Box No. II)

3. ☐ Unity of invention is lacking (see Box No. III)

4. With regard to the title,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. 6
☒ as suggested by the applicant
☐ as selected by this Authority, because the applicant failed to suggest a figure
☐ as selected by this Authority, because this figure better characterizes the invention
- b. ☐ none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/32484

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H04M 07/00 (2007.01)

USPC - 370/466

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - H04M 07/00; H04L 29/06; H04J 03/16 (2007.01)

USPC - 370/352, 385, 466

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MicroPatent, IP.com, DialogPro

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,671,367 B1 (GRAF et al) 30 December 2003 (30.12.2003), entire document	1, 3, 22
Y		2, 4-21, 23
Y	US 2004/0100914 A1 (HELLWIG et al) 27 May 2004 (27.05.2004), entire document	2, 7, 9, 13, 21
Y	US 2005/0074017 A1 (QIAN et al) 07 April 2005 (07.04.2005), entire document	4-5, 11-12, 14-21
Y	US 6,898,208 B1 (SLIGO et al) 24 May 2005 (24.05.2005), entire document	6, 8-13, 17, 23
X	US 2004/0252681 A1 (RABIPOUR et al) 16 December 2004 (16.12.2004), entire document	1, 3, 22

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

14 March 2007

Date of mailing of the international search report

07 MAY 2007

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

Authorized officer:

Blaine R. Copenheaver

PCT Helpdesk: 571-272-4300

PCT OSP: 571-272-7774

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Gregory A. Hunt
Jenkins, Wilson, Taylor & Hunt, P.A.
Suite 1200, University Tower
3100 Tower Boulevard
Durham, NC 27707

Date of mailing
(day/month/year)

07 MAY 2007

Applicant's or agent's file reference

1497/19PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US06/32484

International filing date (day month year)

18 August 2006

Priority date (day month year)

19 August 2005

International Patent Classification (IPC) or both national classification and IPC

IPC(8) - H04M 07/00 (2007.01)

USPC - 370/466

Applicant

SANTERA SYSTEMS, INC.

1. This opinion contains indications relating to the following items:



Box No. I Basis of the opinion



Box No. II Priority



Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability



Box No. IV Lack of unity of invention



Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement



Box No. VI Certain documents cited



Box No. VII Certain defects in the international application



Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. 571-273-3201

Date of completion of this opinion

14 March 2007

Authorized officer:

Blaine Copenheaver

PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US06/32484

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed
☐ filed together with the international application in electronic form
☐ furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US06/32484

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	2, 4-21, 23	YES
	Claims	1, 3, 22	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-23	NO
Industrial applicability (IA)	Claims	1-23	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1, 3, and 22 lack novelty under PCT Article 33(2) as being anticipated by Graf et al. (US 6,671,367 B1).

Referring to claims 1 and 22, Graf et al. discloses a method comprising: (a) receiving first and second lists of media encoding rates and corresponding indices used by first and second media endpoints of a media stream connection (col. 9 lines 55-65); (b) determining whether transcoder-free operation is possible for the media stream connection based on the first and second lists (col. 8 lines 43-59); and (c) in response to determining that transcoder-free operation is possible for the media stream connection, establishing a transcoder-free connection in the media gateway between the first and second endpoints (col. 8 lines 43-59) using a single digital signal processor (DSP) to monitor and map between indices and encoding rates used by the first and second endpoints during the media stream connection (fig. 1 – Node B only needs one codec/DSP).

Referring to claim 3, Graf et al. discloses determining whether the media encoding rates in the first list are compatible with those in the second list (col. 9 lines 60-63 – controller checks which codecs are compatible).

Claims 2 and 7 lack an inventive step under PCT Article 33(3) as being obvious over Graf et al. in view of Hellwig et al. (US 2004/0100914 A1).

Referring to claim 2, Graf et al. (as discussed in lack of novelty of claim 1) is silent on receiving first and second lists of radio access bearer sub-flow combination indicators (RFCIs) and corresponding media encoding rates used by the first and second endpoints. However, Hellwig et al. discloses receiving RFCIs and their corresponding encoding rates (paragraph 003) for transcoding in a core network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the RFCI features of Hellwig et al. to the transcoder-free operation of Graf et al. in order to limit the amount of processor capacity consumed and establish an efficient connection that can easily be controlled (paragraphs 0011-0012).

Referring to claim 7, Graf et al. (as discussed in lack of novelty of claim 1) is silent on performing radio access bearer sub-flow combination indicator (RFCI) mapping for the connection. However, Hellwig et al. discloses performing radio access bearer sub-flow combination indicator (RFCI) mapping for the connection (paragraph 0008) for transcoding in a core network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the RFCI features of Hellwig et al. to the transcoder-free operation of Graf et al. in order to limit the amount of processor capacity consumed and establish an efficient connection that can easily be controlled (paragraphs 0011-0012).

Claims 4-5, 14-16 and 18-20 lack an inventive step under PCT Article 33(3) as being obvious over Graf et al. in view of Qian et al. (US 2005/0074017 A1).

Referring to claim 4, Graf et al. (as discussed in lack of novelty claim 1) is silent on establishing connections between voice servers. However, Qian et al. discloses transcoding and communication between voice servers (paragraph 0029). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the voice servers of Qian et al. to the transcoder-free operation of Graf et al. in order to provide methods and systems for dynamic media gateway resource management (paragraph 0015).

Referring to claim 5, Graf et al. (as discussed in lack of novelty claim 1) discloses establishing a loop back connection (col. 8 line 48) but is silent on establishing the connections between voice servers. However, Qian et al. discloses transcoding and communication between voice servers (paragraph 0029). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the voice servers of Qian et al. to the transcoder-free operation of Graf et al. in order to provide methods and systems for dynamic media gateway resource management (paragraph 0015).

(Cont. in Supplemental Box)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US06/32484

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box No. V

2. Citations and explanations:

Referring to claim 14, Graf et al. discloses (a) a broadband interface for sending media packets to and receiving media packets from an external network (col. 8 line 17); (b) a packet switching fabric for forwarding media packets between the broadband interface and at least one internal processing resource in the media gateway (col. 8 line 20); and (d) a transcoder-free operation controller for establishing a transcoder-free connection between the broadband interface and the voice server via the switching fabric (col. 8 lines 43-59), but Graf et al. is silent on (c) at least one voice server for performing voice processing functions, including transcoding, for the media packets. However, Qian et al. discloses transcoding and communication between voice servers (paragraph 0029). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the voice servers of Qian et al. to the transcoder-free operation of Graf et al. in order to provide methods and systems for dynamic media gateway resource management (paragraph 0015).

Referring to claim 15, Graf et al. also discloses that the broadband interface comprises an IP interface (col. 8 line 17).

Referring to claim 16, Graf et al. also discloses that the broadband interface comprises an ATM interface (col. 8 lines 22-23).

Referring to claim 18, Graf et al. also discloses that the packet switching fabric 30 comprises an ATM switching fabric (col. 8 lines 22-23).

Referring to claim 19, Graf et al. also discloses a single DSP for monitoring and mapping between indices and encoding rates used by endpoints of the transcoder-free connection (fig. 1 – Node B only needs one codec/DSP).

Referring to claim 20, Graf et al. also discloses that the transcoder-free operation controller is adapted to determine whether transcoder-free operation is possible by examining encoding rates used by endpoints of a connection (col. 9 lines 60-63 – controller checks which codecs are compatible).

Claims 6, 8, 10, and 23 lack an inventive step under PCT Article 33(3) as being obvious over Graf et al. in view of Sligo et al. (US 6,898,208 B1).

Referring to claim 6, Graf et al. (as discussed in lack of novelty of claim 1) is silent on establishing a transcoder-free connection over an Ethernet switching fabric in the media gateway. However, Sligo et al. discloses establishing a transcoder-free connection over an Ethernet switching fabric in the media gateway (col. 2 line 54). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the Ethernet switch of Sligo et al. to the transcoder-free operation of Graf et al. in order to have a method for dynamically assigning channel element types to calls that provides for optimal capacity and flexibility of a transcoding function (col. 1 lines 41-44).

Referring to claims 8 and 23, Graf et al. discloses (a) receiving first and second lists of media encoding rates and corresponding indices used by first and second media endpoints of a media stream connection (col. 9 lines 55-65); (b) determining whether transcoder-free operation is possible for the media stream connection based on the first and second lists (col. 8 lines 43-59), but Graf et al. is silent on (c) in response to determining that transcoder-free operation is possible, establishing a transcoder-free connection over an Ethernet switching fabric in the media gateway. However, Sligo et al. discloses establishing a transcoder-free connection over an Ethernet switching fabric in the media gateway (col. 2 line 54). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the Ethernet switch of Sligo et al. to the transcoder-free operation of Graf et al. in order to have a method for dynamically assigning channel element types to calls that provides for optimal capacity and flexibility of a transcoding function (col. 1 lines 41-44).

Referring to claim 10, Graf et al. also discloses determining whether the media encoding rates in the first list are compatible with those in the second list (col. 9 lines 60-63 – controller checks which codecs are compatible).

Claims 9 and 13 lack an inventive step under PCT Article 33(3) as being obvious over Graf et al. in view of Sligo et al. and in further view of Hellwig et al.

Referring to claim 9, Graf et al. as modified by Sligo et al. (as discussed in lack of inventive step of claim 8) is silent on receiving first and second lists of radio access bearer sub-flow combination indicators (RFCIs) and corresponding media encoding rates used by the first and second endpoints. However, Hellwig et al. discloses receiving RFCIs and their corresponding encoding rates (paragraph 003) for transcoding in a core network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the RFCI features of Hellwig et al. to the transcoder-free operation of Graf et al. as modified by Sligo et al. in order to limit the amount of processor capacity consumed and establish an efficient connection that can easily be controlled (paragraphs 0011-0012).

(Cont. in Next Supplemental Box)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US06/32484

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Previous Supplemental Box:

Referring to claim 13, Graf et al. as modified by Sligo et al. (as discussed in lack of inventive step of claim 8) is silent on performing radio access bearer sub-flow combination indicator (RFCI) mapping for the connection. However, Hellwig et al. discloses performing radio access bearer sub-flow combination indicator (RFCI) mapping for the connection (paragraph 0008) for transcoding in a core network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the RFCI features of Hellwig et al. to the transcoder-free operation of Graf et al. as modified by Sligo et al. in order to limit the amount of processor capacity consumed and establish an efficient connection that can easily be controlled (paragraphs 0011-0012).

Claims 11-12 lack an inventive step under PCT Article 33(3) as being obvious over Graf et al. in view of Sligo et al. and in further view of Qian et al.

Referring to claim 11, Graf et al. as modified by Sligo et al. (as discussed in lack of inventive step of claim 8) is silent on establishing connections between voice servers. However, Qian et al. discloses transcoding and communication between voice servers (paragraph 0029). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the voice servers of Qian et al. to the transcoder-free operation of Graf et al. as modified by Sligo et al. in order to provide methods and systems for dynamic media gateway resource management (paragraph 0015).

Referring to claim 12, Graf et al. (as discussed in lack of inventive step of claim 8) discloses establishing a loop back connection (col. 8 line 48) but is silent on establishing the connections between voice servers. However, Qian et al. discloses transcoding and communication between voice servers (paragraph 0029). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the voice servers of Qian et al. to the transcoder-free operation of Graf et al. as modified by Sligo et al. in order to provide methods and systems for dynamic media gateway resource management (paragraph 0015).

Claim 17 lacks an inventive step under PCT Article 33(3) as being obvious over Graf et al. in view of Qian et al. and in further view of Sligo et al.

Referring to claim 17, Graf et al. as modified by Qian et al. (as discussed in lack of inventive step of claim 14) is silent on the packet switching fabric comprising an Ethernet switching fabric. However, Sligo et al. discloses establishing a transcoder-free connection over an Ethernet switching fabric in the media gateway (col. 2 line 54). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the Ethernet switch of Sligo et al. to the transcoder-free operation of Graf et al. as modified by Qian et al. in order to have a method for dynamically assigning channel element types to calls that provides for optimal capacity and flexibility of a transcoding function (col. 1 lines 41-44).

Claim 21 lacks an inventive step under PCT Article 33(3) as being obvious over Graf et al. in view of Qian et al. and in further view of Hellwig et al.

Referring to claim 21, Graf et al. as modified by Qian et al. (as discussed in lack of inventive step of claim 14) is silent on the voice server being adapted to perform radio access bearer sub-flow combination indicator (RFCI) mapping for the transcoder-free connection. However, Hellwig et al. discloses performing radio access bearer sub-flow combination indicator (RFCI) mapping for the connection (paragraph 0008) for transcoding in a core network. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the RFCI features of Hellwig et al. to the transcoder-free operation of Graf et al. as modified by Qian et al. in order to limit the amount of processor capacity consumed and establish an efficient connection that can easily be controlled (paragraphs 0011-0012).

Claims 1-23 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.